



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,323	07/29/2003	Hardayal Singh Gill	HITG.055PA(0523)	6605
7590 01/24/2006 Chambliss, Bahner & Stophel, P.C. 1000 Tallan Building Two Union Square Chattanooga, TN 37402			EXAMINER HEINZ, ALLEN J	
			ART UNIT 2653	PAPER NUMBER

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/629,323	Applicant(s) GILL ET AL.	
	Examiner A. J. HEINZ	Art Unit 2653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/31/05.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-32 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 11-14, 19-24 and 29-32 is/are rejected.
7) ☒ Claim(s) 15-18 and 25-28 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2653

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. §102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 11,12,14,19-22,24,29-32 are rejected under 35 U.S.C. §102(b) as being anticipated by Carey.

See Figures 3B&7. Note, to the extent claimed and understood, first hard biasing layers 22 (right and left sides of free layer 32) abut the ends of the free layer with second hard biasing layers 26, having their magnetization anti-parallel to layers 22, and positioned to the right and left sides of

Art Unit: 2653

spacer layer 34 and below the lowest part of free layer 32 which thereby makes them(26) discontiguous from the free layer 22.

The second hard biasing layers 26 could be formed over the first hard biasing layers 22 as is well known in the art and shown in the 'bottom spin valve' configuration shown in figure 7 and disclosed in col.8, lines 46+.

Re claims 21,22,24-30,32; because the sensor as claimed in claims 11-20 is anticipated by Carey and is intended to be used in disk drive applications (see FIELD AND BACKGROUND OF THE INVENTION), these claims are also fully anticipated.

3. The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Art Unit: 2653

4. Claims 13,23 rejected under 35 U.S.C. §103(a) as being unpatentable over Carey as applied to claims 11,12,14-22,24-32 above, and further in view of routine experimentation.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to fabricate the first hard biasing layers with a greater thickness than the second hard biasing layers.

Rationale: the claimed limitations are of a nature that would allow one of ordinary skill in the art to which said subject matter pertains, the capability of adjusting/modifying same during routine investigation of the design/operation of the sensor to establish an overall thickness of the sensor by varying the thicknesses of the component layers. See Carey, for example col. 5, lines 53-57.

5. For a complete response applicant should identify how the claimed structure of his invention defines over **all** the art of record.

Moreover, where the applicant disagrees with the reasoning and/or application of the prior art on critical points of the claims, they should identify how the claimed structure of their

Art Unit: 2653

invention defines over **all** the art of record not just the applied art.

Where applicant believes that the art is redundant and/or superfluous relative to the critical aspects of the claimed invention the applicant may simply state so in rebuttal summary.

Also note, applicant's silence pertaining to other claimed features has been taken as an indication that same is not of significant import in defining the scope of applicant's invention and may be considered as inherent in the prior art and/or obvious over the art of record.

6. Claims 15-18&25-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The objections and/or rejections indicated in paragraphs 2 thru 5 of the first office action have been corrected by the amendments provided by applicant's response of 31 October 2005.

8. If applicant has filed an information disclosure statement and has not received an office action that contain an initialed-off copy (or copies) of all such filed IDS's (or at least a

Art Unit: 2653

comment to the disposition of such IDS'S in the body of the office action itself) applicant should apprise the examiner of such missing documentation [to the IDS's] in response to this office action so that the examiner can take appropriate action to supply same to the applicant.

9. **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. J. HEINZ

Art Unit: 2653

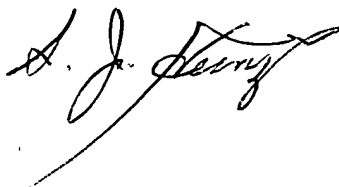
whose telephone number is (571) 272-7587. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, WILLIAM KORZUCH can be reached on (571)272-7589.

The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A. J. HEINZ
Primary Examiner
Art Unit 2653

A handwritten signature in cursive script, appearing to read "A. J. Heinz", with a long, sweeping underline that extends to the right.